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Notice of Allowability

Application No.

09/883,492

Examiner

Jorge L Ortiz-Criado

Applicant(s)

KIM ET AL.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/03/2004.
2. ☒ The allowed claim(s) is/are 1-3, 5, 11-15, 19-21, 25-34, 36-40 and 42, renumbered 1-28 respectively.
3. ☒ The drawings filed on 19 June 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


NABIL HINDI
PRIMARY EXAMINER
GROUP 2500

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Howard I. Levy on 12/21/2004.
3. The application has been amended as follows:
 - a. In the claims:
 - i. Claims 7-10, 17-18 and 23-24 have been canceled.

Allowable Subject Matter

4. Claims 1-3, 5, 11-15, 19-21, 25-34, 36-40 and 42 are allowed.
5. The following is an examiner's statement of reasons for allowance:

The prior art made of record (Yamamoto et al. U.S. Patent No. 6,570,827) teaches an optical pickup device comprising: a light source to emit light; an objective lens to focus the

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emitted light from the light source on a recording medium to form a light spot; an optical path changer disposed on an optical path of the emitted light between the light source and the objective lens, the optical path changer changing the optical path of the emitted light; a chromatic aberration correction lens disposed on the optical path between the light source and the objective lens, the chromatic aberration correction lens correcting a chromatic aberration occurring due to a change in a wavelength of the emitted light and/or due to an increase in a wavelength bandwidth of the emitted light, the chromatic aberration correction lens comprising a first lens having a positive power and a second lens having a negative power adjacent to each other, a total focal length of the chromatic aberration correction lens being infinite as compared to the objective lens; and a photodetector to receive the light reflected from the recording medium and then incident thereon through the optical path changer, wherein the total focal length of the chromatic aberration correction lens is at least 10 m, wherein an Abbe number of an optical material, of which the first lens having the positive power is formed, at a d-line, is larger than that of an optical material, of which the second lens having the negative power is formed, at the d-line, wherein the second lens having the negative power and the first lens having the positive power are sequentially disposed from the light source, and the first and second lenses have similar powers.

Specifically the prior art fails to teach either alone or in combination specifically:

In regard to claim 1 and 40, wherein surfaces of the second and first lenses facing the light source and the objective lens, respectively, have negative radii of curvature, and a surface between the first and second lenses has a positive radius of curvature, the negative radii of curvature having magnitudes greater than the positive radius of curvature.

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In regard to claims, 13, 14, 15 and 27, wherein the chromatic aberration correction lens satisfies $0.95 \leq h_0/h_i \leq 1.05$ when a height of the emitted light incident on the chromatic aberration correction lens is h_i , and a height of the emitted light exiting the chromatic aberration correction lens is h_0 .

In regard to claims 19, 20, 21 and 36, wherein the chromatic aberration correction lens satisfies $0 < 1/(f_1 \cdot v_1) + 1/(f_2 \cdot v_2) + \dots + 1/(f_n \cdot v_n) < 0.008$ when focal lengths of the lenses comprising the chromatic aberration correction lens and the objective lens with respect to the light source are f_1, f_2, \dots and f_n , and Abbe numbers of optical materials forming the lenses comprising the chromatic aberration correction lens and the objective lens at a d-line are v_1, v_2, \dots and v_n

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jorge L Ortiz-Criado whose telephone number is (703) 305-8323. The examiner can normally be reached on Mon.-Thu.(8:30 am - 6:00 pm), Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris H To can be reached on (703) 305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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